



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/552,596

12/26/2006

Toru Wada

239129

2502

23460 7590 09/29/2008

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER

HAMILTON, CYNTHIA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

09/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,596

Applicant(s)

WADA ET AL.

Examiner

Cynthia Hamilton

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/07/05, 12/26/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIS-100)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 10/07/2005

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants require that their claimed invention have two or more hydrophobic polymer each present in a fine particle state. This "present in a fine particle state" is defined in the paragraph bridging pages 7-8 as "when the observation of morphology and the assessment of phase distribution are performed by using a scanning probe microscope SPM, presence as an independent fine particle can be confirmed." The only time that applicants reference such an observation is on page 26 wherein such SPM determinations are made on a cured layer made from the photosensitive composition claimed. The curing of such a layer consumes the photoinitiator and changes the chemical nature of the composition because the unsaturated bonds that are susceptible to free radical polymerization have polymerized. Thus, the properties of

morphology found on page 26 are found in the cured product and not the photosensitive composition or plate. This leaves unclear what applicants mean in instant claims 1-25 when they limit the invention to “present in a fine particle state” and in claim 2 when they require limits of particle size. Does “present in a fine particle state” reference the composition before such curing? Do actual limits on size reference the composition or cured products intended to be made from such compositions? Thus, the limits and scope of claims 1-25 are unclear in view of the specification.

5. Claims 9-10, 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 9-10, 22 and 23, applicants require the presence of (G) a conjugated diene oligomer having no crosslinking group, but give as an example on page 40, line 12-15, The conjugated diene oligomer B2000 produced by Nippon Petrochemicals. The only way that an conjugated diene oligomer would not have in chain or side group crosslinking vinyl function would be if it was fully hydrogenated. The nature of butadiene polymerization yields a polymer residual vinyl content. Otsuki et al (EP 1013710 A1) in [0042] on page 7 that B-2000, a product of Nippon Petrochemicals has a vinyl group content of 65 % thus clearly a worker of ordinary skill in the art of polymers of diene conjugation would realize there are present crosslinking groups in conjugated diene oligomer B2000 produced by Nippon Petrochemicals. Thus, the limits of instant claims 9-10, 22 and 23 are indefinite because it is unclear from the specification and that known in the art what is meant when applicants required (G) a conjugated diene oligomer having no crosslinking group. What is part of the “crosslinking

group" that is not present in B2000? Page 60 of Goodman et al shows where the vinyl group content is in polybutadiene, generally.

6. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants reference the properties of a composition layer obtained from the composition of claim 1 wherein the layer obtained in any fashion whatsoever has a percentage change of compressive elasticity and swelling properties due to dipping in an unidentified "cosolvent". Because applicants do not make clear what is done to the layer of claim 1 to make the photosensitive resin composition layer of claim 13 and do not make clear what the "cosolvent" is a solvent for or what the solvent is that it is "co" for, workers of ordinary skill in the art would not understand from this working in claim 14 what was encompassed by this claimed invention. Thus, claim 14 is held indefinite. For examination purposes, the limits of claim 14 have been considered to encompass all compounds capable of solvating anything and the layer formed is formed in any manner as long as it remains photosensitive, i.e. not fully photocured.

7. Claims 6 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The photosensitive resin composition of instant claims 6-19 has "a carboxylic acid-based copolymer". The addition of the word "based" to an otherwise definite expression extends the scope of the expression so as to render it indefinite. What is encompassed by "based with respect to "carboxylic acid"? Does this exclude carboxylic acid groups? Does this mean the copolymer is made from carboxylic acids? Does this mean that carboxylic esters, i.e. made from carboxylic acid, are included?. The scope of the term is unclear

because of this “based”. Further, does carboxylic acid reference what is left in the copolymer or from what the copolymer is made? Thus, the limits of claims 6 and 19 are indefinite due to the confusion over this term.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5, 7-8, 11-18, 20-21 and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al (US 6,197,479 B1). With respect to instant claims 1-5, 7, 11-18, 20 and 24-25, the compositions and plates formed therefrom of Examples 1 and 4-7 of Tanaka et al anticipate the instant invention. “A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus.” The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989). In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05. With respect to the plates and compositions of Tanaka et al. The Synthesis Examples 1, 2 and 4 of Tanaka et al are clearly polymers prepared from a latex rubber dispersion in water and have number average particle size of sufficient difference when combined as in the Examples given as to yield the required differences in peaks and the ratios respective of particle size in instant claim 2. With respect to instant claim 7, component B prevents aggregation as set forth by Tanaka et al at col. 3, lines

13-17. With respect to instant claims 3-4, the NBR3 of Component (3) is a carboxylated nitrile rubber thus hydrophilic through the carboxylate group and with butadiene polymerized structure common with that of Synthesis examples 1-2 and 4. With respect to instant claim 8 and 21, the latex of Synthesis Example 1 has present a non ionic surfactant in polyoxyethylene nonyl phenyl ether present which moves to the composition as a whole when the latex is used.

10. Claims 1-2, 5-8, 13-15 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasashita et al (US 5,916,732). With respect to instant claims 1-2, 5-8, 13-15 and 18-21, Examples 8 and 9 of Sasashita et al anticipate the instant compositions and plates wherein Nipol 1072 is one of the hydrophobic latexes and the other is Laxter DM 801 with the hydrophilic resin is the polyamide made Production Example A-1 derived from a carboxylic acid. Nipol 1072 disclosed in Example 1 to form a sea-island dispersion with an diameter of 0.5 to 4 microns thus is the hydrophobe to the polayamide. Solvents of alcohol are the viscosity adjusting agent and acrylate monomers are present as well as photoinitiators. in column 3-4, Sasashita et al teaches adding the rubbers to improve aqueous ink resistance and are dispersed intentionally in the polymer matrix. Thus, these Examples of Sasashita et al are held to inherently have the required dispersion characteristics to read on the instant invention when using two separate polymers to be dispersed in the polyamide component to form flexographic printing plates.

11. Claims 1, 3-5, 9, 13-14, 16-18 and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over TOYOBO CO., LTD (JP 10-148930, a) as evidenced by the English Translation (AIPN) thereof. With respect to instant claim s 1, 3-5, 9, 13-14, 16-18 and 22, Working examples 1-3 of TOYOBO CO., LTD,

anticipate or in the alternative are substantially the same as if made in the same fashion as set forth in the instant invention. TOYOBO CO., LTD has two different hydrophobic polymers one clearly listed as a latex. There is a hydrophilicity polymer and benzyl dimethyl ketal which is a photoinitiator and butadiene oligo acrylate which is a photopolymerizable compound and a conjugated diene oligomer having no crosslinking group if by no crosslinking group is acrylate meant. The solvent is the viscosity adjusting agent. For guidance on product-by-process claims see MPEP 2113. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In TOYOBO CO., LTD, see particularly [0060] to [0074] 12. Claims 7-8, 10 -12, 20-21, and 23-24 rejected under 35 U.S.C. 103(a) as being unpatentable over TOYOBO CO., LTD (JP 10-148930, a) as evidenced by the English Translation (AIPN) thereof as applied to claims 1 and 9 above.

With respect to the compositions of Examples 1-3 of TOYOBO CO., LTD and the broad compositions and plates of which these examples are species there of, the use of other crosslinking agents than butadiene oligo acrylate are listed in [0028] and are inclusive of n-nonyl (meta, i.e. meth,) acrylate, lauryl acrylate, n-tridecyl (meth) acrylate all of which fall within the range set forth in instant claim 11 for the alkyl methacrylate. Thus, with respect to instant claims 11-12 and 24-25, the substitution of any one of the listed examples of crosslinking agent set forth by TOYOBO CO., LTD for butadiene oligo acrylate would have the simple substitution of one

known element for another to obtain predictable results which is the dispersion set forth by the simple substitution of one known element for another to obtain predictable results in [0004] and solved in [0010] to [0019] to have a hydrophobic phase in a hydrophilic matrix for a printing plate for flexography that is safe and non toxic with improved mechanical properties.

With respect to the plates and compositions of TOYOBO CO., LTD and instant claims 7-8 and 20-21, the addition of a surfactant to the compositions of TOYOBO CO., LTD is made obvious by the teachings to do so at [0021] and [0032] and would have been obvious to have been made part of forming the compositions of their working examples 1-3 in TOYOBO CO., LTD to yield the predicted results set forth by TOYOBO CO., LTD.

With respect to instant claims 10 and 23, the molecular weight of the butadiene oligo acrylate in the working examples of TOYOBO CO., LTD is not given. If a minimum of two butadiene groups were used, the molecular weight would have been approximately 250 and if there had been 7 butadiene groups the molecular weight would have been approximately 520. Thus, workers of ordinary skill in the art when considering oligomers in reference to butadiene in butadiene oligo acrylate would have considered it obvious to include those reaching into the range of at least 7 repeat units thus reaching into and overlapping the range of molecular weight set in instant claims 10-23 when considering the compositions set forth by TOYOBO CO., LTD.

13. Claims 1-3, 5-7, 13-16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by TOYOBO CO., LTD (JP 2000-214594 A) as evidenced by English Translation (AIPN) thereof. With respect to instant claims 1-3, 5-7, 13-16 and 18-20, the composition and plate made therefrom set forth by TOYOBO CO., LTD appears to inherently anticipate the instant invention as two different butadiene latex are present as well as a hydrophilic polymer

and phenoxy polyethylene glycols acrylate and glycerol diglycidyl diacrylate as instant B and a photoinitiator as instant C. These combinations are set forth to give a dispersion by TOYOBO CO., LTD in [0011] to [0023] which allows water color ink used as a printing plate. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

14. Claims 1-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over TOYOBO CO., LTD (JP 09-031337 A and abstract attached by applicants) as further evidenced by English Translation (AIPN) thereof. With respect to instant claims 1-25, TOYOBO CO., LTD discloses plates made like that of the instant plate with the exception of stating whether the two hydrophobic polymers required present were formed from a latex. The plates formed require the presence of two different hydrophobic resins dispersed in a hydrophilic polymer wherein the method of making forms a phase separation thus forming the required instant "present in a fine particle state". The formation of the plate in the manner set forth by TOYOBO CO., LTD is held to form the instant plates or plates substantially like the instant plates thus, as a product defined by process, the instant product is either anticipated the the plates and compositions of TOYOBO CO., LTD or form substantially the same plate and are thus prima facie obvious over the instant plates. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the

prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Applicants define the nature of the formed plate by referencing in their specification what is present after curing and by referencing the nature of cosolvent resiliency and swelling. The plates of TOYOBO CO., LTD are held to be no matter how made to have such ability to be formed into such plates where some co solvent for some use would yield such a property. For guidance on product-by-process claims see MPEP 2113. IN TOYOBO CO., LTD see particularly the claims, [0007]-[0013] and [0017]-[0021] and [0028-0030].

15. Claims 1-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over TOYOBO CO., LTD (JP 2002-062639 A and abstract attached by applicants) as further evidenced by English Translation (AIPN) thereof. With respect to instant claims 1-25, TOYOBO CO., LTD discloses compositions in [0043] to [0045] which appear to read on a species of the instant invention wherein the hydrophobic polymers are acrylonitrile butadiene, i.e. Nipol 1042, and polybutadiene, i.e. JSR BR02LL. Reference is made at [0023] to [0026] to dispersed phase desired and latex as a method of formation at [0019]. The plates formed require the presence of two different hydrophobic resins dispersed in a hydrophilic polymer wherein the method of making forms a phase separation thus forming the required instant “present in a fine particle state”. The formation of the plate in the manner set forth by TOYOBO CO., LTD is held to form the instant plates or plates substantially like the instant plates thus, as a product defined by process, the instant product is either anticipated the plates and compositions of TOYOBO CO., LTD or form substantially the same plate and are thus prima facie obvious over the instant plates. “[E]ven though product-by-process claims

are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Applicants define the nature of the formed plate by referencing in their specification what is present after curing and by referencing the nature of cosolvent resiliency and swelling. The plates of TOYOBO CO., LTD are held to be no matter how made to have such ability to be formed into such plates where some co solvent for some use would yield such a property. For guidance on product-by-process claims see MPEP 2113.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Hamilton/
Primary Examiner, Art Unit 1795

September 24, 2008